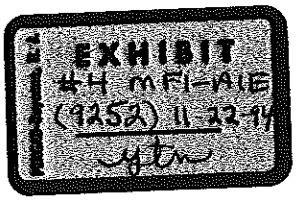

REPORT OF THE ELECTRIC DEPARTMENT

UTILITIES DIVISION

of

THE PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA

DOCKET NO. 94-006-E

DUKE POWER COMPANY

REPORT OF ELECTRIC DEPARTMENT

UTILITIES DIVISION

PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA

DOCKET NO. 94-006-E

DUKE POWER COMPANY

INDEX OF FUEL REPORT

REPORT OF ELECTRIC DEPARTMENT

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DUKE POWER COMPANY

REPORT OF FUEL ADJUSTMENT ANALYSIS

Scope of Examination

The Commission's Electric Department Staff analyzed the Company's procedures and practices pertaining to its fuel related operations. Staff's examination consisted of the following:

1) Review of the Company's monthly fuel reports including:
   a) Power Plant Performance Data Reports
   b) Major Unit Outage Reports
   c) Generation Mix
   d) Generation Statistics
   e) Retail Comparison of MWH Sales
   f) Retail Comparison of Fuel Costs
2) On-site inspection of the Company's coal quality sampling technique.
3) Review of the Company's methodology used to estimate fuel costs.
4) Review of the Company's currently approved Adjustment for Fuel Costs Tariff.
5) History of Cumulative Recovery Account
6) Calculation of fuel costs to be included in the base rates December 1994 through May 1995.

REVIEW OF COMPANY'S MONTHLY FUEL REPORTS

Duke Power Company (the Company) files with this Commission monthly reports detailing power plant performance, major unit outages, generation mix and other reports which provide the Staff pertinent data on which to evaluate the Company's fuel purchases and usage.

The Power Plant Performance Data Report Summary for fossil and nuclear plants is shown on **Exhibit No. 1.** It includes a listing of the individual units with their capacity factors and equivalent availability factors for each month in the period. These factors are expressed as percentages. These percentages are a useful index which can highlight or identify problems or unusual occurrences.

The Company's Nuclear Unit Outage Report, **Exhibit No. 2A** considers each outage experienced by a unit, giving the inclusive dates of the outage, hours down, type outage (scheduled or forced), the reason for the outage and corrective action taken. This information covers the period being considered in this proceeding. Staff compiled this data through a review of Company documents, NRC filings and interviews with Company personnel.

The Company's Base Load Fossil Unit Outage Report, **Exhibit No. 2B** shows each outage of the base load fossil fired plants of 100 hours or more giving the month of the outage, hours down, type outage, the reason for the outage and corrective action taken. This information covers the period being considered in this proceeding.

Staff reviewed and compiled a percentage Generation Mix statistic sheet for the Company's fossil, nuclear and hydraulic plants for April 1994 through September 1994. The

fossil generation ranged from a high of 53.3% to a low of 21.1%. The nuclear generation ranged from a high of 76.1% to a low of 46.5%. The percentage of generation by hydro ranged from 2.8% to 0.2%. This information is included in **Exhibit No. 3.**

The Staff also collected and reviewed certain Generation Statistics of Major Plants for the 6 months ending September 30, 1994. These are presented on **Exhibit No. 4.** This Exhibit shows the Company's major plants by name, type of fuel used, cost in cents per kilowatt-hour to operate and total megawatt-hours generated for the period. The nuclear fueled McGuire Station was lowest in cost at 0.56 cents per kilowatt-hour. The highest amount of generation was 9,145,819 megawatt-hours which was produced at the Oconee Station.

Electric Department **Exhibit No. 5** shows a comparison of the Company's original retail megawatt-hour (MWH) estimated sales to the actual sales for the six month period from April 1994 through September 1994. The original projections ranged from an over-estimate of 3.06% in April 1994 to an under-estimate of 6.06% in August 1994 with a total under-estimate for the period of 1.56%.

Electric Department **Exhibit No. 6** shows a comparison for the months of April 1994 through September 1994 of the Company's original fuel cost projections to the costs actually experienced. The original projections ranged from an over-estimate of 17.63% for April 1994 to an under-estimate of 7.29% for June 1994. The difference between actual and original projection of these fuel costs is further delineated graphically on Electric Department Exhibit No. 7.

ON-SITE INSPECTION OF COMPANY'S COAL QUALITY SAMPLING TECHNIQUES

The Company's fuel sampling procedure for coal consists of identification of each train car by specific shipper, point of origin and producer. A sample is taken from each car while unloading and is then crushed and placed in a sealed container. The sample is then sent to the laboratory and analyzed for moisture, ash, BTU and sulfur content. The results of this testing are used to determine the actual price the Company will pay for the coal it received. The price could vary from the contracted price depending upon whether the quality of the coal, such as BTU content, is higher or lower than the level stipulated in the agreement. This cost does not include any non-fuel cost or coal handling cost at the generating plant. Staff has observed this procedure for fuel sampling and has found this procedure to be adequate at this time. We have established a routine whereby we will check the plants fuel quality controls on a continuing basis.

REVIEW OF THE COMPANY'S METHODOLOGY USED TO ESTIMATE FUEL COSTS

Staff reviewed the Company's methodology used to estimate fuel costs for this period. Total generation is developed by System Planning, and system sales and South Carolina retail sales are obtained from the Company's Forecasting Department. First the nuclear generation for each unit is estimated for each month in the six month period after considering any scheduled outages. Secondly hydro generation is estimated based on median hydro. Next a small amount of

generation is estimated from combustion turbines and also a small amount of purchased power is included. The balance of the generation comes from the Company's coal stations.

The generation is then priced, generally using current fuel costs. If a nuclear unit is being refueled, costs expected after the refueling are used for that unit.

REVIEW OF THE COMPANY'S CURRENTLY APPROVED RETAIL ADJUSTMENT FOR FUEL COSTS TARIFF

The Staff has reviewed the Company's currently approved Retail Adjustment for Fuel Costs Tariff, **Exhibit No. 8**, and determined that it has performed as intended and continues to be an adequate methodology for calculating the appropriate fuel costs.

HISTORY OF THE CUMULATIVE RECOVERY ACCOUNT

Exhibit No. 9 is a history of the cumulative recovery account.

CALCULATION OF BASE RATE FUEL COST COMPONENT FOR DECEMBER 1994 THROUGH MAY 1995

Utilizing the currently projected sales and fuel cost figures for the period December 1994 through May 1995 and including the projected under-recovered balance in the cumulative recovery account as of November 1994 of $1,551,527 (See Accounting Exhibit G.) the average fuel expense is estimated to be 1.0508 ¢/KWH. The Commission has consistently expressed its expectation that the Company would exercise all reasonable prudence and efficiency in its fuel purchasing practices and

aggressively control the operation and maintenance of their production facilities to assure the most reasonable fuel costs possible. The Commission has directed the Staff to monitor the Company's plant operations and fuel purchasing to ensure that any inefficiency or negligent practice is brought to their attention. **Exhibit No. 10** is a table of Projections of the Cumulative Recovery Account for various fuel base levels for the six month period ending May 1995. Also indicated in the table are the projected results using the current fuel base component and the Company's proposed factor of 1.0000 ¢/KWH.

DUKE POWER COMPANY

POWER PLANT PERFORMANCE DATA (%) REPORT

CAPACITY FACTORS	MW RATING	LIFE TIME	YEAR 1992	YEAR 1993	YTD 1994	JAN 1994	FEB 1994	MAR 1994	APR 1994	MAY 1994	JUN 1994	JUL 1994	AUG 1994	SEP 1994
CATAWBA 1	1129	71.6	70.9	76.6	98.1	90.1	100.7	100.4	102.0	101.4	96.6	96.0	99.9	96.3
CATAWBA 2	1129	71.4	93.5	82.5	70.2	92.6	95.6	101.5	92.8	0.0	0.0	70.0	97.2	85.0
MCGUIRE 1	1129	61.6	75.5	55.8	69.6	70.8	11.8	95.6	98.8	95.6	97.2	95.8	54.9	0.0
MCGUIRE 2	1129	73.8	68.4	68.8	97.9	80.7	101.8	102.5	102.0	100.8	99.8	97.9	97.5	98.6
OCONEE 1	846	71.5	84.5	88.0	76.1	100.9	96.5	100.1	92.0	0.0	6.5	95.6	95.7	98.8
OCONEE 2	846	72.9	80.0	84.1	94.5	101.7	101.7	101.6	85.3	101.2	100.8	85.8	74.2	99.5
OCONEE 3	846	72.6	73.3	99.8	68.3	0.0	4.0	64.0	101.9	101.0	99.3	54.5	87.6	99.6
TOTAL	7054	70.7	77.9	78.0	82.0	77.8	73.9	95.9	97.0	72.0	72.0	86.0	87.0	80.0

EQUIVALENT AVAILABILITY FACTORS	MW RATING	JAN 1994	FEB 1994	MAR 1994	APR 1994	MAY 1994	JUN 1994	JUL 1994	AUG 1994	SEP 1994	OCT 1994	NOV 1994	DEC 1994
BELEWS CREEK 1	1120	100.0	56.5	0.0	0.0	62.7	100.0	99.7	100.0	97.7			
BELEWS CREEK 2	1120	98.3	98.0	98.4	23.7	81.3	97.8	98.4	83.8	89.5			
CLIFFSIDE 5	562	100.0	99.8	93.5	64.5	99.3	97.9	90.6	100.0	100.0			
MARSHALL 3	660	99.4	96.5	98.7	99.3	95.2	99.8	95.0	97.4	100.0			
MARSHALL 4	660	99.6	99.6	100.0	96.4	73.5	88.3	99.9	96.3	11.1			
TOTAL	4122	99.3	87.0	71.3	46.7	79.7	97.2	97.4	94.6	82.3			
CATAWBA 1	1129	89.1	99.9	99.9	99.9	100.0	96.5	96.2	99.8	95.8			
CATAWBA 2	1129	91.8	94.1	100.0	92.0	100.0	0.0	70.3	96.3	84.1			
MCGUIRE 1	1129	70.8	13.0	95.4	100.0	100.0	99.7	100.0	57.9	0.0			
MCGUIRE 2	1129	79.6	100.0	100.0	100.0	100.0	100.0	100.0	99.6	100.0			
OCONEE 1	846	100.0	96.3	99.4	91.8	100.0	7.9	96.2	96.9	100.0			
OCONEE 2	846	100.0	100.0	100.0	84.7	100.0	100.0	85.9	75.0	100.0			
OCONEE 3	846	0.0	5.4	63.8	100.0	100.0	99.3	55.4	88.6	100.0			
TOTAL	7054	77.0	73.3	94.8	95.9	71.5	72.3	87.1	87.8	80.8			

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ELECTRIC DEPARTMENT
EXHIBIT NO. 1

DUKE POWER COMPANY
NUCLEAR UNIT OUTAGE REPORT

Oconee 1

NO.	DATE OFF	DATE ON	HOURS/TYPE*	REASON FOR OUTAGE AND CORRECTIVE ACTION
1.	04/28/94	06/27/94	1432.08/S	Refuel Outage -- EOC 15; 6 day outage extension to inspect/correct/replace pump seal package of Reactor Coolant Pump; 1 day outage extension due to Axial Power Shaping Rods Coupling. Design differences would not allow couplings to mate. Evaluation was performed, eight fuel assemblies were moved to allow correct coupling; Turbine overspeed trip test.
2.	08/20/94	08/20/94	16.65/F	Repair 'Z' phase connection on generator transformer motor operated disconnect. 'Y' and 'Z' phase contacts were burned and pitted. 'X', 'Y', 'Z' phase contacts were cleaned or replaced.

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EXHIBIT NO. 2A
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Oconee 2

1.	04/06/94	04/10/94	87.55/F	Failure of '2A' Main Feedwater Pump's shaft driven oil pump. Shaft driven oil pump gears were replaced and other feedwater pump oil pump inspected and replaced.
2.	07/27/94	08/08/94	179.35/F	Small primary/secondary tube leak in "2A" Steam Generator. Leak was located and repaired.

Oconee 3

1.	07/05/94	07/18/94	316.78/F	Tube leak in '3A' and '3B' Letdown Coolers. Coolers were replaced/repaired.
2.	08/10/94	08/11/94	36.95/F	Reactor trip due to blown fuse on KI inverter. Blown fuse was replaced and all other associated fuses checked.
3.	08/12/94	08/13/94	22.30/F	Loss of hydraulic oil pressure on the '3B' Main Feedwater pump resulted in a pump and reactor trip. Feedwater pump hydraulic oil system was repaired.

McGuire 1

1.	05/12/94	05/13/94	16.83/F	Reactor/Turbine trip due to Main Power Control Relay trip signal. During investigation of battery ground problems on Unit 2, trip signal was inadvertently generated. Unit was restarted.
2.	08/19/94	Continued	/S	Refuel EOC 9.

McGuire 2

No outages recorded for this review period for this unit.

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Catawba 1

No outages recorded for this review period for this unit.

Catawba 2

1.	04/29/94	07/05/94	1576.08/S	Refueling Outage EOC #6; Outage extension due to '2B' Reactor Coolant Seal. Seal Package was inspected and replaced; Turbine Overspeed Trip Test was performed before returning the unit to service.
2.	07/10/94	07/11/94	23.35/F	Manual trip of the Main Feedwater Pump was necessary to prevent pump bearing damage. (Reactor was manually tripped). Feedwater pump was repaired.
3.	08/30/94	08/31/94	26.48/F	Sliding link was operated during event recorder trouble shooting, which caused a reactor trip. The event recorder was repaired and the unit was restarted.
4.	09/13/94	09/16/94	68.95/F	Failure of an Auxilary Relay in the control circuit for the Steam Generator '2C' Main Steam Isolation Valve. The Control Auxilary Relay was replaced and the failure evaluated.

* F=Forced S=Scheduled

DUKE POWER COMPANY
FOSSIL UNIT OUTAGE REPORT
(100 HOURS OR GREATER DURATION)

MONTH	NAME	HRS/TYPE*	REASON FOR OUTAGE AND CORRECTIVE ACTION
Apr 94	Belews Creek 1	720/S	Planned turbine overhaul outage.
	Belews Creek 2	468/S	Annual Boiler inspection, inspected and replaced boiler tubes.
	Cliffside 5	250/S	Annual Boiler inspection.
May 94	Belews Creek 1	245/S	Continuation of planned turbine overhaul outage.
	Belews Creek 2	137/S	Electrostatic Precipitator fouling. Washed precipitator to avoid exceeding annual opacity limit of 17.5%.
	Marshall 4	190/S	Annual Boiler inspection.
Jun 94	None		
Jul 94	None		
Aug 94	Belews Creek 2	121/F	Horizontal reheat tube leak due to flyash erosion. Tubes replaced and additional tubes shielded.
Sep 94	Marshall 4	640/S	Boiler overhaul.

Type* S-scheduled F-forced

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EXHIBIT NO. 2B

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ELECTRIC DEPARTMENT
EXHIBIT NO. 3

DUKE POWER COMPANY
GENERATION MIX

APRIL 1, 1994 - SEPTEMBER 30, 1994

MONTH	FOSSIL (MWH)	%	NUCLEAR (MWH)	%	HYDRO (MWH)	%	TOTAL (MWH)
APRIL 94	1,362,633	21.1	4,908,904	76.1	177,849	2.8	6,449,386
MAY	2,754,226	42.0	3,766,146	57.5	31,141	0.5	6,551,513
JUNE	4,160,085	53.3	3,634,057	46.5	14,953	0.2	7,809,095
JULY	3,473,384	43.2	4,505,768	56.1	58,766	0.7	8,037,918
AUGUST	3,162,100	39.9	4,555,489	57.5	199,090	2.5	7,916,679
SEPTEMBER	2,595,725	38.4	4,085,557	60.4	82,292	1.2	6,763,574
TOTAL	17,508,153	40.2	25,455,921	58.5	564,091	1.3	43,528,165

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ELECTRIC DEPARTMENT
EXHIBIT NO. 4

DUKE POWER COMPANY

GENERATION STATISTICS OF MAJOR PLANTS

APRIL 1, 1994 - SEPTEMBER 30, 1994

PLANT	TYPE FUEL	AVERAGE FUEL COST (¢/kwh)	GENERATION (MWH)
Allen	Coal	1.82	2,147,679
Lee	Coal	1.66	336,308
Marshall	Coal	1.50	6,382,774
Belews Creek	Coal	1.49	6,322,741
Catawba	Nuclear	0.59	7,725,010
Oconee	Nuclear	0.57	9,145,819
McGuire	Nuclear	0.56	8,535,936

DUKE POWER COMPANY
SOUTH CAROLINA RETAIL COMPARISON
OF ESTIMATED TO ACTUAL ENERGY SALES

1994

	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
[1] ESTIMATED SALES [MWH]	1,593,750	1,552,067	1,713,228	1,797,950	1,838,801	1,766,180	10,261,976
[2] ACTUAL SALES [MWH]	1,546,498	1,580,119	1,717,963	1,774,946	1,968,727	1,836,469	10,424,722
[3] AMOUNT DIFFERENCE [1]-[2]	47,252	-28,052	-4,735	23,004	-129,926	-70,289	-162,746
[4] PERCENT DIFFERENCE [3]/[2]	3.06%	-1.78%	-.28%	1.30%	-6.60%	-3.83%	-1.56%

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EXHIBIT NO. 5

DUKE POWER COMPANY
SOUTH CAROLINA RETAIL COMPARISON
OF PROJECTED TO ACTUAL FUEL COSTS
[CENTS PER KWH]

		1994					
		APR	MAY	JUN	JUL	AUG	SEP
[1]	ORIGINAL PROJECTION	.8907	1.1670	1.2082	1.1367	1.1032	1.0876
[2]	ACTUAL EXPERIENCE	.7572	1.0847	1.3032	1.1092	1.0083	.9251
[3]	AMOUNT IN BASE	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
[4]	VARIANCE FROM ACTUAL [1-2]/[2]	17.63%	7.59%	-7.29%	2.48%	9.41%	17.57%

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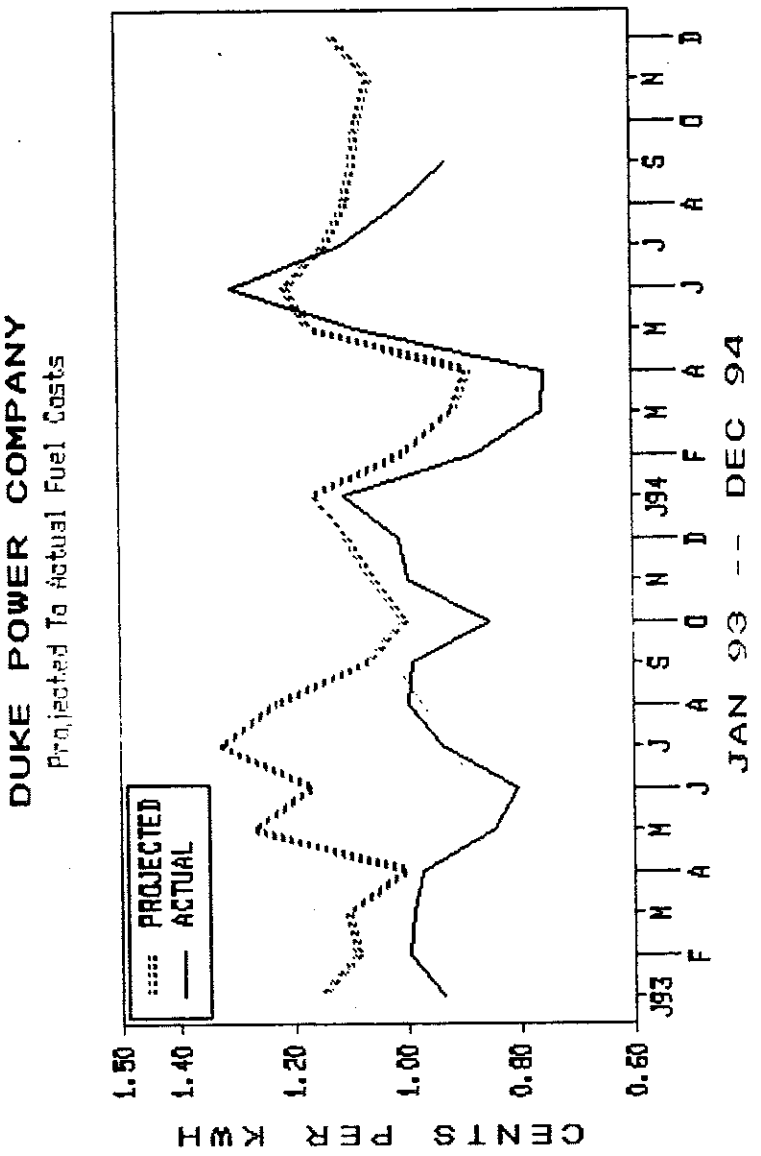
ELECTRIC DEPARTMENT
EXHIBIT NO. 6


DUKE POWER COMPANY
Projected To Actual Fuel Costs
PROJECTED
ACTUAL
CENTS PER KWH
1.50
1.40
1.20
1.00
0.80
0.60
J93
F M A M J J A S O N D J94 F M A M J J A S O N D
JAN 93 -- DEC 94

Duke Power Company

Electricity No. 4
South Carolina Fifth Revised Leaf No. 50B
Superseding South Carolina Fourth Revised Leaf No. 50B

ADJUSTMENT FOR FUEL COSTS

APPLICABILITY

This adjustment is applicable to and is a part of the Utility's South Carolina retail electric rate schedules.

The Public Service Commission has determined that the costs of Fuel in an amount to the nearest one ten-thousandth of a cent, as determined by the following formula, will be included in the base rates to the extent determined reasonable and proper by the Commission for the succeeding six months or shorter period:

$$F = \frac{E}{S} + \frac{G}{S_1}$$

Where:

F = Fuel cost per kilowatt-hour included in base rate, rounded to the nearest one ten-thousandth of a cent.

E = Total Projected system Fuel costs:

(A) Fuel consumed in the Utility's own plants and the Utility's share of fuel consumed in jointly owned or leased plants. The cost of fossil fuel shall include no items other than those listed in Account 151 of the Commission's Uniform System of Accounts for Public Utilities and Licensees. The cost of nuclear fuel shall be that as shown in Account 518 excluding rental payments on leased nuclear fuel and except that, if Account 518 also contains any expense for fossil fuel which has already been included in the cost of fossil fuel, it shall be deducted from this account.

Plus

(B) Purchased power fuel costs such as those incurred in unit power and Limited Term power purchases where the fuel costs associated with energy purchased are identifiable and are identified in the billing statement.

Plus

(C) Interchange power fuel costs such as Short Term, Economy and other where the energy is purchased on economic dispatch basis.

Energy receipts that do not involve money payments such as Diversity energy and payback of storage energy are not defined as purchased or interchange power relative to this fuel calculation.

Minus

(D) The cost of fuel recovered through intersystem sales including the fuel costs related to economy energy sales and other energy sold on an economic dispatch basis.

Energy deliveries that do not involve billing transactions such as Diversity energy and payback of storage are not defined as sales relative to this fuel calculation.

S = Projected system kilowatt-hour sales excluding any intersystem sales.

G = Cumulative difference between jurisdictional fuel revenues billed and fuel expenses at the end of the month preceding the projected period utilized in E and S.

S_1 = Projected jurisdictional kilowatt-hour sales for the period covered by the fuel costs included in E.

The appropriate revenue-related tax factor is to be included in these calculations.

The fuel cost F as determined by SCPSC Order No. 94-458 for the period June 1994 through November 1994 is 1.000 cent per kilowatt-hour.

South Carolina Fifth Revised Leaf No. 50B
Effective for bills on and after June 1, 1994
SCPSC Docket No. 94-005-E
Order No. 94-458

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ELECTRIC DEPARTMENT
EXHIBIT NO. 9

DUKE POWER COMPANY

HISTORY OF CUMULATIVE RECOVERY ACCOUNT

PERIOD ENDING	OVER (UNDER)$
MAY 1979 - Automatic Fuel Adjustment in Effect	
November 1979	1,398,442
May 1980	11,322,948
November 1980	4,588,331
May 1981	(5,760,983)
November 1981	(13,061,000)
May 1982	(14,533,577)
November 1982	(4,314,612)
May 1983	20,915,390
November 1983	14,192,297
May 1984	18,245,503
November 1984	14,478,363
May 1985	2,551,115
November 1985	(553,465)
May 1986	(1,318,767)
November 1986	(29,609,992)
May 1987	(27,241,846)
November 1987	(29,329,168)
May 1988	(9,373,768)
November 1988	6,544,914
May 1989	6,067,739
November 1989	11,372,399
May 1990	15,421,968
November 1990	2,939,303
May 1991	17,068,483
November 1991	21,265,000
May 1992	21,080,856
November 1992	11,553,801
May 1993	16,959,555
November 1993	221,606
May 1994	6,609,897

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EXHIBIT NO. 10

DUKE POWER COMPANY
SOUTH CAROLINA RETAIL

PROJECTIONS OF THE CUMULATIVE RECOVERY ACCOUNT
FOR THE SIX MONTH PERIOD ENDING
MAY 1995

	FUEL BASE	PROJECTED CUMULATIVE OVER\(UNDER) RECOVERY [$]
	.9250	(12,636,287)
	.9500	(10,125,640)
	.9750	(7,614,992)
CURRENT FACTOR >>	1.0000	(5,104,344)
COMPANY PROPOSED >>	1.0000	(5,104,344)
	1.0250	(2,593,697)
	1.0500	(83,049)
ZERO UNDER >>	1.0508	(2,708)
ZERO OVER >>	1.0509	7,335
	1.0750	2,427,599
	1.1000	4,938,247
	1.1250	7,448,894
	1.1500	9,959,542
	1.1750	12,470,190